

Claims

1. A method of using accounting certificates to allow a subscriber of a home
5 network to purchase services or products via a mobile communications network, the method comprising:
 - sending a request for an accounting certificate from a subscriber's mobile terminal to a certificate issuing node;
 - upon receipt of the request at said node, sending an authorisation request from
10 said node to an online charging system of the subscriber's home network;
 - at the online charging system, making a decision on said request based upon the subscriber's account data, and returning either an accept or deny service request message to said node;
 - in the event that an accept service request message is received by said node,
15 sending the requested accounting certificate to the subscriber terminal; and
 - sending the accounting certificate from the subscriber terminal to the provider of a product or service to be paid for.
2. A method according to claim 1, wherein said online charging system to which
20 said authorisation request is sent is responsible for coordinating all charges made against subscribers of the home network.
3. A method according to claim 1 or 2, said certificate issuing node being owned
by the operator of the access network used by the subscriber terminal.
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4. A method according to claim 3, wherein the access network is provided by the operator of the subscriber's home network, or by a visited network.
5. A method according to any one of the preceding claims, wherein said certificate
30 issuing node comprises a Public Key Infrastructure portal, which uses shared secret keys to communicate with a subscriber terminal.

6. A method according to claim 5, wherein the Public Key Infrastructure portal communicates with a Bootstrapping Server Function of the subscriber's home network to obtain a shared secret previously agreed between the Bootstrapping Server Function and the subscriber terminal.

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7. A method according to claim 6, wherein the Public Key Infrastructure portal preferably obtains the shared secret after receiving a request for an accounting certificate from the subscriber terminal.

10 8. A method according to any one of the preceding claims, wherein the Public Key Infrastructure portal communicates with the subscriber's home network to obtain the identity of the responsible online charging system prior to sending said authorisation request, and/or for authorisation to issue accounting certificates in principle.

15 9. A method according to any one of the preceding claims, wherein the provider of a product or service to be paid for, sends received accounting certificates to said certificate issuing node for settlement.

20 10. A method according to any one of the preceding claims, wherein the online charging system reports previously reserved credit as used and withdrawn, when a service has been delivered and a signed invoice received from the service provider.

25 11. A method according to any one of the preceding claims, wherein the provider of a product or service sends an invoice to the subscriber terminal for products or services which the subscriber proposes to purchase and, after receipt of this invoice, the subscriber terminal sends the request for the accounting certificate to the certificate issuing node.

30 12. A method according to any one of claims 1 to 10, wherein the request for an accounting certificate is sent prior to receipt of the invoice at the terminal.

13. A method according to any one of the preceding claims, wherein said accounting certificate is secured by bootstrapping on an authentication and shared secret agreement procedure performed between the mobile terminal and the subscriber's home network.

- 5 14. A Network Application Function node for use in a mobile communications system, the node having an interface towards one or more online charging functions, each online charging function coordinating charges for subscribers of a home network to which the online charging function belongs, an interface towards one or more product or service providers, and an interface towards subscribers wishing to purchase products
- 10 or services made available by said providers, the node further comprising:
- means for receiving from a subscriber an accounting certificate request;
 - means for sending an authorisation request from said node to an online charging system of the subscriber's home network;
 - means for receiving an accept or deny request from said online charging
- 15 function; and
- means for sending the requested accounting certificate to the subscriber terminal in the event that an accept service request message is received by the node.